Available online at www.sciencedirect.com

SciVerse ScienceDirect

Procedia - Social and Behavioral Sciences 33 (2012) 283 – 287

Procedia
Social and Behavioral Sciences

PSIWORLD 2011

Use self-talking for learning progress

Ioana Lepadatu*

'Spiru Haret' University, 7 Turnului Street., Brasov, Romania

Abstract

The objectives of our work were to use self-talking during the action of learning and to highlight the important role that self-talking plays in the learning progress. The lot of participants was made up of pupils belonging to two primary school classes. We applied the following tests: Toulouse-Pieron, the Visual Attention test, the Analog Transfer test, questionnaires, physical tests, and the experiment, introducing self-talking. During the research we used observation and individual and group conversations. Self-talking is a tool with interpretative and educational value.

Keywords: Self-talk; adjustment function; learning progress; action; attention.

1. Introduction

In 1979 the psychologist and psycholinguistic J. Carroll states that language has two main functions, namely: a system of responses by which individuals communicate with each other – inter-individuals communication –, a system of responses that facilitates a person's thoughts and action – intra-individual communication. The scientist highlights some points of common interest to linguistics and psychology, pointing out that linguistics is in essence a behavioural science. Internal language differs from external language mainly in structure, the former being a language for itself. The development of internal language is essential for developing higher levels of learning, mental organization and control of behaviour. Many pupils have difficulty solving problems and writing coherently partly because they do not develop enough internal language mechanisms. If the student speaks and writes confusingly and unclear, it means that the development of his ideas is not clear and/or correct.

Our paper aims to highlight the importance and effectiveness of language to intrapersonal communication and the importance of internal language to learning and adjusting some activities, based

* Corresponding author. Tel.: +0 0723 321 774.
E-mail address: ioanalepadatu@yahoo.com.

 doi:10.1016/j.sbspro.2012.01.128

on the cognitive function, the regulatory function and the imperative-persuasive function, formulated within the internal language. The idea is taken from Ericsson and Simon (1993), who invented the 'thinking aloud' process to understand how people self-regulate their learning process. In our country Lepădatu (2010) carried out a research based on the 'think aloud' strategy on a sample of high performance gymnasts. In this paper we want to inform you about a new research: we tried to value the self-talking strategy on a sample of lay boys and girls.

In the foreign literature there are several important works valuing the motivational and instructional self-talking in performances from different sports: Hardy, J., Gammage, K., & Hall, C. R. (2001), Perkos, Theodorakis, & Chroni, (2002), Landin, D., & Hebert, E. P. (1999).

Hardy (2001) defines self-talking as the internal dialogue in which the individual interprets his lived perceptions, changes his evaluations and beliefs and gives himself instructions and reinforcements. This underlines the importance of language to the development of thought and, hence, the development of action.

The objectives of our research were: to use self-talking throughout the learning action and to find the role the self-talking plays in the learning progress.

Hypotheses: we asked ourselves if the students who use self-talking are able to reduce the period of learning and which are the moments when the self-talking acts best in order to facilitate learning based on individual psychological characteristics. Does self-talking have a positive effect, really helping people to improve and become better?

2. Methods

2.1. Participants

Important features are developed and progress is made within the mental activity during the first school years, due to the pupils' awareness of their own learning process. Thus, learning becomes the fundamental type of activity. As with any act of learning, physical training must necessarily take into consideration a complex of psychomotor aptitudes which integrates kinaesthesia, body schema, laterality, static and dynamic balance, body orientation in space, the overall and partial coordination, the spatial-temporal perceptions of movements, sense of rhythm, speed of response, repetition and anticipation, fine control of movements. Some of these features have a high heritability coefficient, others of education, the combination of the two determinations achieving 'the effective range' or 'the optimal development area', located between 6/7 and 10/11 years old. Therefore, we focused on pupils aged between 6 and 10.

The sample was made up of pupils, boys and girls, chosen at random from two primary school classes. The participants had physical education classes conducted in accordance with the school curriculum. The classes were divided into two types of groups. The experimental group was made of all the pupils from the A form, children who took part in the physical education classes: 9 girls and 6 boys, to whom self-talking strategy was introduced. The control group consisted of 11 girls and 8 boys, all the children from the B form who took part in the physical education classes. In order to have objective results, the sport teachers did not know which children were taught the strategy.

2.2. Tools

To know the subjects' characteristics, we assessed their focused attention, because it is a primary condition for cognitive and behavioral functioning of the human subject. We did that in order to measure the students' ability to concentrate. We applied the classical Toulouse-Pieron test. We also assessed their distributive attention, wishing to diagnose their capacity of distributive attention and resistance to psychic

tiredness, considering that it is specific to the physical exercises included in our experiment. We applied the Visual Attention Test for children between 5 and 12 years old, measuring the speed and the period of time in which they can be attentive to the visual aims within the limited area.

The Analog Transfer test assesses the declarative knowledge transfer, i.e. verbal and figural contents. The transfer indicates how the declarative knowledge assimilated into a context can facilitate the assimilation of new declarative inputs. The purpose of this test was to assess the students' ability to apply previously learnt knowledge in new situations. The object of the transfer may be the space of the problem or the problem-solving procedure. In transfer, the most difficult problem is detecting the similarity between two events or areas. In the experimental tasks performed by us, the ability to transfer will influence the duration and quality of learning; there are common elements to shots in the basket and throwing any object at a fixed location, elements which should be easily identified and quickly discriminated against the uncommon elements.

During the research period we used participatory observation, as the experimenter participated in all exercises. The observations focused on different students of each group during the exercises. They also focused on every person's conduct in relation to the same stage, each individual's reaction to a certain exercise. Also, talks were held whenever there were questions and adjustments. They were made individually or in groups, sometimes in the presence of the teacher who watched the experiment. As the above mentioned methods, conversations were targeted to the same formative effect through feedback. The questionnaire included identification and verification data, if the subject already uses satisfactory and effective personal strategies to achieve his objectives, a description of self-talking, i.e. 'a form in which, out loud or in thought, one tells oneself something' (Ericsson & Simon, 1993). The new procedure, however, must be strictly tailored to adapt to the needs of the subject according to his levels of understanding, learning rhythms, conforming, as much as possible, to the principle of conservation: maximum efficacy with minimal energy consumption. After completing this sequence of the questionnaire, the students were asked to indicate whether they used the self-talking before, during or after the physical exercise. Basically, they were asked to indicate on a Likert scale of 10 points the frequency with which they used self-talking (1 = never, 2 = very rarely, ..., 10 = very often).

2.3. The working procedure

The main experimental intervention was the directed exercise of self-talking or talking aloud while doing the exercises. We obtained two sets of data: before the introduction of self-talking and at the end. The data obtained in this way are the initial diagnoses, the formative steps to build upon. In pursuing our objectives we worked with appropriate diagnostic tools that allow the quantification of the following variables: focused attention, distributive attention, number of the failed shots to the basket and running resistance. Thus the working procedure was conducted in four major stages:

- *Preliminary investigation:* each student was given a questionnaire and a battery of above mentioned tests, aiming at all students understanding the purpose of the study / research. The researcher wanted to know and had thus the chance to understand the students' particularities.

- *Introduction of instructional self-talking*. The students instruct themselves to improve the technique of throwing to the basket. The achievement could be measured by the number of successes/failures in 10 attempts. Therefore, depending on individual faults, personal self-talking was introduced ('upper left corner', 'throw directly', 'hand under the ball', 'bend knees'). This self help that students could provide for themselves is for those periods when they cannot concentrate, cannot be attentive to the task they have to do. By this strategy we expected to decrease the number of misses, especially since

students lack the capacity to concentrate and do not have distributive attention. *Introduction of motivational self-talking,* which motivates, stimulates, determines and encourages. They used words like 'I really have to stop', 'I can', 'another round', 'I'm good' for long runs for endurance. The students learnt to manage their energy and to resist longer. This element can also be measured: we counted the minutes or seconds till the subjects stopped. The students were told to run as much as possible. This help that students could provide for themselves is for those periods when they cannot mobilize themselves, cannot motivate themselves to perform the task they have to do. By this strategy we expected to increase the running time.

- *The actual exercises* carried out in time, in several sequences.

- *Registration* of data by researcher; *centralization* of data; *selecting* the data that were to be *processed* in accordance with the objectives and hypotheses. At this point, the same tests as in the initial stage were applied, the researcher wanting to ascertain if the action of self-talking is optimal to facilitate learning.

2.4. Analysis of results

Following the introduction of self-talking, there was a better coordination and running resistance in the experimental group compared to the control group, but not as great as we expected. And this happened due to some methodological limitations, the main one being the short period of time given to the intervention itself and the storage and implementation of the strategy. Instead, spectacular progress is observed due to motivational self-talking, transferable to other areas of the participants' activity, issues revealed by the participants' accounts as well as by their teachers who noted that some participants used the self-talking strategies in all their activities. It seems that at this age level the motivational self-talking is more effective than the instructional one. The validation of the instructional and motivational self-talking was achieved by content validity (the extent to which the test items are representative samples of the whole). It was largely ensured by extracting samples of conduct from the qualitative research results and by the analysis of three experts who examined the relevance of the items.

In the experimental group, in 86.6% of cases there is an increase in performance on the accuracy/failures; only 13.4% have results within the same limits. 53.33% double the performance. In the control group, 47.33% maintain their performance. 14.56% record decreases. Only 38.11% record minor increases in performance probably due to extra training. Since the long runs for endurance test was marked by motivational self-talking, the comparative elements look at substantial time increases in the experimental group that runs more, gets tired later, sometimes beating their own stated records. This requires a fine control of the self-talk based on educational objectives. We tried even during this test, where the motivational self-talk was primarily, to correct the deficit in breathing, positioning with the help of the instructional self-talk. We obtained performance. In 63% of cases performance increased and 16% of them recorded high-performance. In the control group, 26% of cases recorded increased performance; some also underperformed.

It can be said that the proposed objectives were achieved and the hypotheses were confirmed: the time had better values, performance changes were observed in terms of motivational self-talking, achieving side transfers to areas that were not covered by our study; at the instructional self-talking level, there were slightly better performances in the experimental group compared with the control group; superior performance when the initial tests were repeated prove the value of our interventions.

3. Conclusion

The study of the literature and the experimental interventions undertaken revealing the current state of knowledge on self-talking in the context of the progress of learning factors is important and makes us understand that every and each person, even ten-year-old students use their own potential of productive thought and originality. Self-talking is an interpretative and educational instrument. Learning to learn is a very important skill, and self-talking focuses on product and process. Learning requires communication, resonance and guidance in finding personal strategies to use words, thoughts and body to understand and make sense of information, to achieve personal objectives.

References

Carrol, J. B. (1979). *Limbaj si gandire (Language and Thought*). Bucharest: Didactic and Pedagogic Publishing House.

Ericsson, K. A., & Simon, H. A. (1993). *Protocol analysis; Verbal reports as data*. (revised edition). Cambridge, MA: Bradfordbooks/ MIT Press.

Hardy, J., Gammage, K., Hall, K. A. (2001). A descriptive study of athletes' self-talking. *The Sport Psychologist*, 15, p. 306-318.

Landin, D., & Hebert, E. P. (1999). The influence of self-talk on the performance of skilled female tennis players. *Journal of Applied Sport Psychology,* 11, p. 263-282.

Lepădatu, I. (2010). Self-talking, a mental ability, *Review of Psychology***,** 1–2, p. 111-122.

Perkos, S., Theodorakis, Y., & Chroni, S. (2002). Enhancing performance and skill acquisition in novice basketball players with instructional self-talk. *The Sport Psychologist,* 16, p. 368-383.